Appendix G

ESSENTIAL FISH HABITAT ASSESSMENT

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AT&T ASIA AMERICA GATEWAY FIBER OPTIC CABLE PROJECT

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ESSENTIAL FISH HABITAT ASSESSMENT

G.1 INTRODUCTION

In support of a permit application to the U.S. Army Corps of Engineers, Los Angeles District, and consistent with the requirements of Section 305(b) (2) of the Magnuson-Stevens Fishery Conservation and Management Act, the following assessment of potential impacts to Essential Fish Habitat (EFH) has been prepared to address the installation of the AT&T Asia America Gateway fiber optic cable within Estero Bay offshore Montaña del Oro State Park. This assessment is prepared in accordance with 50 CFR 600.920(g)(2) and addresses the managed fish and invertebrate taxa that could occur at the site.

EFH is defined as "…those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity". "Waters", as used in this definition, are defined to include "aquatic areas and their associated physical, chemical, and biological properties that are used by fish". These may include "…areas historically used by fish where appropriate; 'substrate' to include sediment, hard bottom, structures underlying the waters, and associated biological communities". "Necessary" means, "the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem". Essential Fish Habitat is described as a subset of all habitats occupied by a species (NOAA, 1998).

G.2 PROPOSED ACTION

The segment of the proposed project that is on the seafloor is located within Estero Bay offshore Montana del Oro State Park in water depths ranging from approximately 33 to 6,000 feet (10 to 1,850 meters) MLLW. For this assessment, the region is defined as the seafloor and marine waters within these depth ranges between Morro Rock and Point Buchon.

The project will include terrestrial, shore-end, and marine activities.

- Terrestrial activities will occur along an existing conduit system that extends from the Sandspit Parking Lot within Montaña de Oro State Park, south of the city of Morro Bay, to the Applicant's San Luis Obispo Cable Station, which is located just outside of San Luis Obispo.
- Shore-end activities are those that occur within the existing subsurface cable pipeline system that extends offshore from the parking lot manhole west to a water depth of approximately 98 feet (30 m). The shore-end activities include

those the occur within the subsurface pipeline between the manhole and where the conduit emerges on the seafloor in approximately 33 ft (10 m) of water and then along the seafloor to the 98 feet (30 m) isobath, the depth where cable burial will be completed by divers.

- Marine activities will then occur along a predetermined course from the 98 feet (30 m) isobath west approximately 45 miles (72 km) to the 6,000 ft (1,850 m) isobath near the edge of the continental shelf.

A description of the in-water components and construction activities is provided below.

Shore-End Segment. The shore-end segment activities include pulling one, self-powered marine cable from the offshore conduit terminus through the existing pipe to the beach manhole. Activities within this segment also include excavation of the conduit; cleaning of the pipeline; and following cable installation, diver burial of the marine cable from the end of the pipe until diver burial is not practical, which occurs at a water depth of approximately 98 feet (30 meters). Other than excavation around the existing conduit and the installation of the proposed cable, no new construction is necessary for this segment of the project.

Marine Segment. Activities within the marine segment (west of the 98 feet [30 meter] isobath) include the pre-lay grapnel clearance, and the placement of the cable from west to east, and ,where specified, burial via a combination of plow and remote operated vehicle (ROV) along a predetermined course to the 98 ft (30 m) isobath. The nearshore (from the conduit, west and north to the 98 feet [30 m] isobath) cable course will follow the "sand channel" route where marine cables have been grouped since 2000. The sand channel route provides greater opportunity for burial of the cable because of the sedimentary nature of the seafloor.

G.3 SEAFLOOR HABITATS

In October 2007, Applied Marine Sciences, Inc. (AMS) completed a remotely operated vehicle (ROV) survey of the seafloor habitats within the proposed cable route corridor between the 56 and 512 ft. (17 and 156 m) isobaths. Data collected during that survey were used to characterize the seafloor habitat types, fishes, and epibiota (surface-living organisms) along the proposed route (AMS, 2008). Details of the survey and methods, including a comprehensive species list, data tables, and biological observer logs from the survey, are provided in Appendix F, of the EIR.

Data collected from video and still photographs taken during the ROV survey were analyzed to characterize the seafloor habitats and associated biota. The ROV survey was conducted within an approximate 320 ft-wide (100 m-) corridor, generally centered on the proposed cable alignment. The ROV survey was divided into six segments, which are labeled Survey Segments A through F (See Figure G-1). Segment divisions were based on habitat type and water depth (AMS, 2008). Table G-1 shows the water depth range and habitat types that were recorded in each segment.

Table G-2 lists the percent cover of the various habitats observed within the cable corridor by AMS (2008). As shown in Table X-2, the proposed cable route is characterized by sedimentary substrate (coarse sand to silt), which comprised 85.6 % of the survey area. Rock, comprising both high-relief (>3 ft [1 m]) and low-relief substrate, accounted for 3.5 % of the surveyed seafloor.

Table G-1: ROV Survey Segments by Water Depth and Habitat Type

Survey Segment	Water Depth in Feet (Meters)	Habitat Type(s) Recorded by Side Scan Sonar and/or Observed in ROV Survey
A-B	70 to 105 (21 to 32)	Fine to medium sediment, cobble and low-relief rocky substrate
C	90 to 105 (27 to 32)	Low- and high-relief rocky substrate, mixed bottom, sandy sediment
D	105 to 250 (32 to 76)	Course sand and cobble mix, some low- and high-relief rocky substrate
E	250 to 280 (76 to 85)	Fine sediment, some low-relief rocky substrate
F	280 to 502 (85 to 153)	Fine sediment

Table G-2: Seafloor Cover by Habitat Type along Proposed Route

Habitat Type	% of Survey Area	Depth Range Observed
Sedimentary Substrate	**85.6**	69 to 502 ft (21to153 m)
Fine & Medium Sand	14.1	
Fine Sand and Silt	51.3	
Course Sand Waves/Troughs	20.2	
Mixed-Bottom	**8.9**	
Sand and Cobble	8.9	
Rocky Substrate	**3.5**	89 to 279 ft (27to 85m)

Low-relief (<1 meter)	3.4	
High-relief (>1 meter)	0.1	

The geophysical survey that was conducted prior to the ROV survey included side scan sonar data that was used to develop a seafloor habitat map of the survey area. Although most of the route inshore of -6,000 ft (-1,850 m) is sedimentary, rocky habitat was detected during the geophysical survey; some of those features were also observed during the ROV survey. According to NEC (2008), the deepest rocky habitat, consisting of scattered rock features interspersed with soft sediment, within the corridor shoreward of the 6,000 ft (1,850 m) isobath was found between the 5,045 and 4,193 ft (1,538 and 1,278 m) isobaths. Other solid substrate areas, consisting of isolated patches of "weathered rock" were found between the 3,395 and 3,110 ft (1,035 and 948 m) isobaths. NEC (2008) reports a more extensive area of higher-relief rock was recorded between the 2,940 and 2,765 ft isobaths (896 and 843 m) approximately 33 miles (53 km) offshore of the conduit. Due to water depth constraints for the equipment, these deeper water rocky features were not included in the ROV survey.

The bathymetry and habitat types within a 0.6 mile-wide (1 km) area, centered on the proposed cable alignment, were provided in a series of maps included in AMS (2008).

Sedimentary Substrate Invertebrates and Fish.

Segments A, B, and C In water depths less than 100 ft (32 m) where the surficial sediment was characterized as fine to medium-grain sand with shell hash, the most common epifauna observed were the ornate tube worm (*Diopatra ornata*), cancer crabs (*Cancer* sp. and *C. gracilis*), and a sea pen (*Stylatula elongata*). Three species of seastars, *Asterina miniata, Mediaster aequalis,* and, *Pisaster brevispinus* were more abundant in the sediments of Segment C. In water depths less than 100 ft (32 m) the fish observed in sedimentary substrate areas were cuskeels (*Chilara* sp.), flatfishes including sanddabs (*Citharichthys* sp.), tubesnout (*Aulorhynchus flavidus*), unidentified rockfish (*Sebastes* sp), and anchovies (*Engraulis mordax*) in the water column. Squid (*Loligo* sp) were also observed in the water column.

Segments D, E, and the inshore portion of F The sedimentary habitat in water depths between 100 and 340 ft (32 and 104 m) ranged from coarse sand and gravel in the shallower areas to fine sand and silt and supported a macroepifauna dominated by sea pens (*Stylatula* sp. and *S. elongata*, *Ptilosarcus gurneyi, Acanthoptilum* sp., and two species of *Virgularia*) , brittle stars (unidentified Ophiuroids and *Ophioneris* sp.),

assorted sea stars (*Petalaster [Luidia] foliolata, Rathbunaster californica,* and, in the inshore portions, *Pisaster brevispinus*). Cerianthid and other anemones (*Pachycerianthus* sp., *Urticina piscivorus*, *Urticina* sp., *and Stomphia coccinea*, respectively), cancer crabs including the slender crab (*Cancer gracilis)* and octopus (*Octopus rubescens*) were common to abundant within the sedimentary habitat in this water depth range.

Fish observed within the shallower portions these segments, 105 to 250ft (32 to 76m), included tonguefish (*Symphurus atricauda*), flatfishes including sanddabs (*Citharichthys* spp.), California halibut (*Paralichthys californicus*), Dover sole (*Microstomas pacificus*), and English sole (*Plueronectes=Parophrys vetulus*), tonguefish (*Symphurus atricauda*), eelpouts (*Lycodes* sp), poachers (Agonidae), cuskeels and rockfish (juvenile and adult). In depths from 250 to 280ft (76 to 85m) common fish taxa included eelpouts, poachers, sculpins (Cottidae), skates (*Raja* sp). In depths greater than 280ft (85m), pink surfperch (*Zalembius rosaceus*), hagfish (*Eptatretus stouti*), poachers, rockfish, anchovies, tonguefish, skates, flatfish including sanddabs and sole (Pleuronectidae), eelpouts and cuskeels were common to abundant.

Segment F, offshore In water depths greater than 340ft (104m), a free-living polychaete "fire worm" (family Amphinomidae) was the most commonly-observed invertebrate. Other common epibiota observed within the deeper portions of the survey area included several species of previously-observed sea pens including *Acanthoptilum* sp. and *Virgularia* spp., and brittle stars (unidentified Ophiuroids, *Amphiodia* sp, and *Amphipholis* sp). Commonly-observed demersal fish observed within these water depths included cuskeels, eelpouts, sanddabs, and hagfish.

Rocky Substrate Invertebrates and Fish.

The rocky subtidal habitats within the region supported relatively diverse plant, invertebrate, and fish communities, the composition of which depends on the habitat heterogeneity and influence of physical factors such as currents, light, temperature, nutrients, and sedimentation (SAIC 2000). Rocky substrates as a rule are more productive and support a greater diversity of species than soft-bottom habitats (SAIC 2000). The project-specific ROV survey, found that shallow-water (to 100 ft [32 m]), hard bottom areas are typified by low-growing "turf" species comprising encrusting coralline algae and bryozoans, hydroids, tunicates, and sponges, a cup corals (*Paracyathus stearnsi* and *Balanophyllia elegans*). Common anemones observed within this depth range included *Metridium farcimen=senile*, *Corynactis californica* and *Urticina*

lofotensis), while seastars (*Asterina miniata* and *Henricia laevigata*); brittlestars (*Amphipholis* sp) were also present. Algae was only found on rocky substrate in water depths of 100 ft (30 m) or less (AMS 2008).

Deeper water rock substrates supported gorgonian corals (*Adelogorgia phyllostera* and *Lophogorgia chilensis)*, the purple coral, *Stylaster californicus* (*=Allopora californica*) and white-plumed anemones (*Metridium farcimen=senile*). According to AMS, 2008, the rock substrate within Segment E, where the proposed cable route crosses a low-relief rock feature in approximately 235 ft (72 m) of water, gorgonian corals, the plumed anemone, and unidentified encrusting bryozoans are the most common epibiota. That report does not identify the location or specific water depth of the feature(s) that supported *Stylaster*. Rocky substrate-associated fish species observed during the ROV survey included adult and juvenile rockfishes (*Sebastes* spp.), lingcod (*Ophiodon elongatus*), cabezon (*Scorpaenichthys marmoratus*) and painted greenling (*Oxylebius pictus*).

G.4 MANAGED SPECIES OF INTEREST

Distribution and habitat information available in Miller and Lea (1972) and Leet, *et al.* (2001) was used to estimate which of the managed species could occur in the area. Species either not occurring in central California or in water depths of less than 33 ft (10 m) are not included in Table G-3 below. Based on those criteria, a total of 94 taxa, including five from the Coastal Pelagics, three from the Pacific Salmon, 77 from the Pacific Groundfish, and nine from the Highly Migratory groups provided in the various NOAA Fisheries-generated documents, could potentially occur within the project area.

Table G-3. List of Managed Taxa Potentially Occurring Within the Project Area

Common Name	Scientific Name	Common Name	*Scientific Name*
COASTAL PELAGICS			
Northern anchovy	*Engraulis mordax*	Pacific sardine	*Sardinops sagax*
Pacific mackerel	*Scomber japonicus*	Jack mackerel	*Trachurus symmetricus*
Market squid	*Loligo opalescens*		
PACIFIC SALMON			
Chinook salmon	*Oncorhynchus tshawytscha*	Coho salmon	*Oncorhynchus kisutch*
Pink salmon	*Oncorhynchus gorbuscha*		
PACIFIC GROUNDFISH			
Butter sole	*Isopsetta isolepis*	Flathead sole	*Hippoglossoides elassodon*
Curlfin sole	*Pleuronichthys decurrens*	Dover sole	*Microstomus pacificus*
English sole	*Parophrys vetulus*	Petrale sole	*Eopsetta jordani*

Common Name	Scientific Name	Common Name	*Scientific Name*
Rex sole	*Glyptocephalus zachirus*	Rock sole	*Lepidopsetta bilineata*
Pacific sanddab	*Citharichthys sordidus*	Sand sole	*Psettichthys melanostictus*
Arrowtooth flounder	*Atheresthes stomias*	Ratfish	*Hydrolagus colliei*
Finescale codling	*Antimora microlepis*	Pacific rattail	*Coryphaenoids acrolepis*
Starry flounder	*Platichthys stellatus*	Soupfin shark	*Galeorhinus zyopterus*
Leopard shark	*Triakis semifasciata*	Big skate	*Raja binoculata*
Spiny dogfish	*Squalus acanthias*	Pacific ocean perch	*Sebastes alutus*
Longnose skate	*Raja rhina*	Aurora rockfish	*Sebastes aurora*
Shortbelly rockfish	*Sebastes jordani*	Widow rockfish	*Sebastes entomelas*
Bank rockfish	*Sebastes rufus*	Calico rockfish	*Sebastes dallii*
Black rockfish	*Sebastes melanops*	Black-and-yellow rockfish	*Sebastes chrysomelas*
Blue rockfish	*Sebastes mystinus*	Bocaccio	*Sebastes paucispinis*
Blackgill rockfish	*Sebastes melanostomus*	Bronzespotted rockfish	*Sebastes gilli*
Brown rockfish	*Sebastes auriculatus*	Canary rockfish	*Sebastes pinniger*
Copper rockfish	*Sebastes caurinus*	Gopher rockfish	*Sebastes carnatus*
Grass rockfish	*Sebastes rastrelliger*	Kelp rockfish	*Sebastes atrovirens*
Olive rockfish	*Sebastes serranoides*	Treefish	*Sebastes serriceps*
Yellowtail rockfish	*Sebastes flavidus*	California scorpionfish	*Scorpaena guttata*
Cabezon	*Scorpaenicthys marmoratus*	Canary rockfish	*Sebastes pinniger*
Chilipepper	*Sebastes goodei*	China rockfish	*Sebastes nebulosus*
Cowcod	*Sebastes levis*	Darkblotched rockfish	*Sebastes crameri*
Flag rockfish	*Sebastes rubrivinctus*	Greenblotched rockfish	*Sebastes rosenblatti*
Greenspotted rockfish	*Sebastes chlorostictus*	Greenstriped rockfish	*Sebastes elongatus*
Honeycomb rockfish	*Sebastes umbrosus*	Pink rockfish	*Sebastes eos*
Rosy rockfish	*Sebastes rosaceus*	Speckled rockfish	*Sebastes ovalis*
Squarespot rockfish	*Sebastes hopkinsi*	Starry rockfish	*Sebastes constellatus*
Stripetail rockfish	*Sebastes saxicola*	Vermilion rockfish	*Sebastes miniatus*
Yelloweye rockfish	*Sebastes ruberrimus*	Yellowtail rockfish	*Sebastes flavidus*
Shortspine thornyhead	*Sebastolobus alascanus*	Pacific cod	*Gadus macrocephalus*
Lingcod	*Ophiodon elongatus*	Kelp greenling	*Hexagrammos decagrammus*
Sablefish	*Anoplopoma fimbria*	Pacific whiting	*Merluccius productus*
Mexican rockfish	*Sebastes macdonaldi*	Redbanded rockfish	*Sebastes babcocki*
Redstripe rockfish	*Sebastes proriger*	Rosethorn rockfish	*Sebastes helvomaculatus*
Sharpchin rockfish	*Sebastes zacentrus*	Silvergrey rockfish	*Sebastes brevispinus*
Splitnose rockfish	*Sebastes diploproa*	Tiger rockfish	*Sebastes nigrocinctus*
Longspine Thornyhead	*Sebastolobus altivelis*		
HIGHLY MIGRATORY SPECIES			
Swordfish	*Xiphias gladius*	Albacore tuna	*Thunnus alalunga*
Blue shark	*Prionace glauca*	Bigeye tuna	*Thunnus obesus*
Mackerel	*Scomber spp.*	Pomfret	*Brama japonica*
Common thresher shark	*Alopias vulpinus*	Bluefin tuna	*Thunnus thynnus*

Common Name	Scientific Name	Common Name	*Scientific Name*
Yellowfin tuna	*Thunnus albacares*		

Based on seafloor habitat the rocky substrate within the area is considered essential habitat and a habitat of concern for managed species, such as rockfish. The predominantly sedimentary seafloor with in the project area is essential fish habitat for managed species, such as flatfish (*i.e.* English sole and Dover sole). No kelp, seagrass, or other habitats of concern have been reported in the project area.

G.5 IMPACTS

Potential impacts to EFH are possible from habitat disturbance during pre-lay surveys and during cable laying operations and could cause potential damage to Habitats of Concern (*i.e.* hard substrate). Activities that could affect those resources include those resulting in seafloor disturbance (*i.e.* pre-lay grapnel clearance, diver support vessel anchoring, excavation around the conduit, and the laying and burial of the cable) as well as the potential impacts of water quality degradation due to wastewater discharges and from the accidental release of petroleum products from the project vessels. Flushing of the cable pipe could also result in the discharge of contaminants in the sediments into the water column. Discussions on the anticipated impacts to the EFH from the proposed activities are provided below.

Pre-Lay Grapnel Survey: The grapnel will be dragged along the proposed alignment in sedimentary seafloor habitats inshore of the 6,000 ft isobath and is expected to disturb a 3 ft-wide (1 m-wide) area along the centerline of cable lay corridor. Potentially significant impacts to EFH of those managed species that require rocky substrate could occur if rock features are affected with the grapnel (see Mitigation EFH-1).

Vessel Anchoring and Excavation of Conduit The proposed anchor plan for the diver support vessel during the shore-end segment specifies a four-point system that will avoid the closest rocky substrate which is located approximately 0.4 miles (0.6 km) offshore (west) of the conduit. The areas of cobble and larger grain sediments immediately north of the conduit are not expected to support sensitive species and these habitats are not considered sensitive.

Potentially significant impacts could, however, occur if anchors are placed upon or anchor lines cross high-relief rock habitat or other Habitats of Concern such as kelp or seagrasses. No kelp or seagrass has, however, been reported in the project area. No anchor plan has been provided for the diver-support vessel during the cable lay

operations and therefore the potential for anchors or anchor cables to impact rocky features offshore of the conduit exists (see Mitigation EFH-2).

The excavation of the sandy sediments around the conduit will result in short-term and local increases in turbidity, but is not expected to have any significant effects on the existing biota and habitat which are routinely subjected to and adapted to wave-induced turbidity. No significant effects to the EFH within this area are expected from that activity.

Cable Laying and Burial Seafloor disturbance impacts associated with these activities include those resulting from 1) laying the cable onto the seafloor from the 6,000 ft (1,850 m) isobath inshore; 2) placing the extra cable onto the seafloor prior to its insertion into the conduit; and 3) diver, ROV, and sled burial of the cable following the completion of cable lay operations.

Cable Laying As currently proposed, approximately 0.8 mile (1.3 km) of solid rock substrate, which includes a 0.5 mile (0.9 km) area between the 2,800 and 2,940 ft [843 and 896 m]) isobaths and a 0.30 mile (0.51 km (0.06 mile [0.01 km] of high relief and 0.24 miles [0.50 km]) of low relief) located in approximately 230 ft (70 m) of water will be crossed by the cable (AMS, 2008, NEC, 2008). The rocky substrate-associated managed fish species observed during the ROV survey included adult and juvenile rockfishes (*Sebastes* spp.), lingcod (*Ophiodon elongatus*), and cabezon (*Scorpaenichthys marmoratus*). While the effects to this habitat and the associated biota is expected to be confined to the width of the cable, because deepwater high relief substrate and the associated biota are considered sensitive resources and the habitat is essential to some managed species, any affect to that habitat is considered potentially significant and could require mitigation (see Mitigation EFH-3). The predominantly sedimentary seafloor with in the project area is essential fish habitat for some managed species, however with the availability of similar habitat adjacent to the project site managed species will disperse from the project site to surrounding available habitat. Impacts to the sedimentary seafloor EFH is expected to be less than significant.

Cable Burial The increase in turbidity and seafloor disturbance associated with the burial of the cable within the sedimentary seafloor habitat areas is considered a local, short-term, and less than significant impact. The areas of disturbance in water depths deeper than 120 ft (37 m) are expected to remain for up to several years; inshore of that water depth, natural deposition is expected to make the disturbed area undetectable

within a few weeks of completion of the burial. No significant effects to the EFH within this area are expected from that activity.

Shore-End Cable onto Seafloor The cable lay vessel will be located approximately 330 ft (100 m) offshore of the conduit and will place the cable that is to be pulled into the conduit onto the seafloor prior to insertion of the cable by divers. While sedimentary substrate characterizes the nearshore seafloor habitats at and around the conduit, rocky substrate has been recorded approximately 0.4 miles (0.6 km) offshore (west) of the conduit. Placing the cable onto the rock substrate could result in significant impacts to habitat that is essential to some managed species and the associated biota (see Mitigation EFH-4). Likewise, dragging the cable to the conduit prior to installation will result in seafloor disturbance and water column turbidity. As the sedimentary habitat and associated biota within this area are routinely subjected to natural perturbations from wave action, these effects are expected to be local, short-term, and less than significant.

Cable Burial Following installation of the cable into the conduit, that portion of the submarine cable that is on sedimentary habitat will be buried by either divers (to the 98 ft [30 m]) water depth or by ROV or sea-plow. The disturbance area for that burial is expected to be up to 10 ft (3.1 m) wide in the sedimentary areas within the 57 mile-long (92 km-) corridor between the -6,000 ft (-1,850 m) isobath and the conduit. The increase in turbidity and seafloor disturbance associated with the burial of the cable within the sedimentary seafloor habitat areas is considered a local, short-term, and less than significant impact. No significant effects to the EFH within this area are expected from that activity.

Hazardous Materials Petroleum-fueled construction equipment and vessels will be utilized to complete the proposed activities. The potential exists for leakage/spills from those vessels and equipment, and the effects of a petroleum spill to the coastal, water column, and seafloor habitats, which are considered essential to several managed species, and the associated biota could be significant. Oil effects include alteration of habitats by coating the existing substrate or modifying sedimentary habitats; smothering by coating epibiota; and/or affecting the water quality. Refined products tend to be more toxic than crude petroleum, but also evaporate and/or dissipate quicker than heavier crude products. Irrespective, a petroleum discharge from one or more of the project vessels, could result in potentially significant effects on habitats that are essential to managed species of interest (see Mitigations EFH-5 and EFH-6). .

G.6 MITIGATIONS

- EFH-1 Provide a grapnel survey plan that includes a figure that depicts the areas where the grapnel will be deployed and, within those areas of the marine segment that have rocky seafloor substrate, delineates where the grapnel will not be used.

- EFH-2 Prior to anchoring any vessels, prepare, and have approved, a detailed anchor plan that shows all proposed anchor locations. Complete a side scan sonar or diver survey within a 100 ft-diameter area around all proposed anchor locations and within a 20 ft-wide corridor along all proposed anchor line alignments within those areas that have not been similarly surveyed within the past year or where rocky habitat has been previously recorded.

- EFH-3 Have an SLC-approved marine biologist onboard the post-lay ROV survey vessel to observe and record the effects of cable lay operations on the seafloor substrates and biota in water depths of from 100 to 6,000 ft. A technical report that includes information on the area (in square meters) and estimated number and species of organisms affected in rocky habitats, should be prepared and submitted. Restoration specifications should be based on the results of that survey and specified by the appropriate agency.

- EFH-4 To assure that no nearshore rocky substrate is affected, place the shore-end cable onto sedimentary seafloor and provide a figure that depicts seafloor habitat types and bathymetry and the location on the seafloor that the shore-end cable will be placed prior to insertion of the cable into the conduit.

- EFH-5 Adopt a zero-discharge policy for all project vessels; no fluids should be discharged into the marine waters shoreward of the mile-limit specified by U.S. and state of California regulations.

- EFH-6 When in California waters and as required by OSPR and OPA-90 regulations, prepare and maintain an oil spill response and recovery plan and sufficient onboard oil recovery equipment to respond to a specified oil spill. If required, establish and maintain contract arrangements with spill response organizations that can respond to an oil spill with the appropriate equipment and within the regulation-specified period.

G.7 REFERENCES

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